

EXHIBIT 97

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Global Partnerships, Publisher Solutions & Innovation

Header Bidding Observatory #1



PSI Global Competitive Intelligence Jan 2017

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What are the key challenges with Header Bidding?

HB jumps the ad server, so the **browser** is now doing **more work**

- Browser reads JavaScript telling it which partners to contact
- Browser calls the SSPs
- Browser processes returned bids, passing to the ad server line items
- On winning the ad-server decision, browser calls winning DSP and notifies SSP

Which brings **latency** since **hard coding into the header means content loads after all the ad calls are made**

But HB vendors have evolved to create '**wrappers**' (—container tags, in most cases client-side) which

- Introduce a generic line item structure that allows to **scale up the number of participating bidders** without additional complexity
- Manage the **auction in the header**
- **Reduce latency** by making sure ad calls are **asynchronous** and making it easier to set **timeouts**

**Example wrappers include AppNexus (creator of open source [PreBid.js](#)), Rubicon, AOL*

Exchanges are also building faster **Server-Side connections** for the header - see [Amazon Spotlight](#)

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Survey results from IAB interviews show current split in implementations as (not published yet)

Direct – 34%

Container/wrapper – 55%

Server to server – 11%

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In Summary: Pros and Cons of Header Bidding

Pros	Cons
<ul style="list-style-type: none">• Revenues<ul style="list-style-type: none">◦ Publisher has a better chance of getting paid what a buyer is actually willing to pay◦ The mediation network sees 100% of the publisher's inventory so can pick the highest paying impressions and header bid on them◦ SSPs 'compete' against each other rather than be called in a waterfall• Vs. Passbacks (waterfall)<ul style="list-style-type: none">◦ No network passback needed (since impression is preselected), so ad serving cost is paid once◦ Only one AdX callout needed to compete with all header bidder line items• Multiple SSPs integration<ul style="list-style-type: none">◦ Header bidding makes that a lot easier since you can plug them in rather than have a crazy tiered setup with loads of passbacks	<ul style="list-style-type: none">• Increased latency - especially in mobile and video = decreased user experience, viewability, CTR, Timeouts on HE exchanges significantly higher than DFP• If a demand partner fails it can block a publisher's site from loading• Operational complexity - Thousands of line items need to be created and managed in order to accommodate possible responses from the SSPs• Loss of forecasting integrity in your adserver• Data security/leakage - You are giving the SSP network 100% visibility of your data, even before you get to see it and the ability for buyers to cookie users even if they don't win the impression• Eventual loss of advertiser trust in RTB auctions - header bidding can make buyers bid against themselves running 2 auctions for every impression• Loss of creative management abilities.• Significant discrepancies between HE and DFP reports leading to difficult reporting reconciliation and risk of bid fraud• Troubleshooting complexity - will require IT assistance beyond the Ad Ops team

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